

**KNOWLEDGE, ATTITUDE AND PRACTICE IN FARMERS TOWARDS
BOVINE DYSTOCIA IN KELANTAN**

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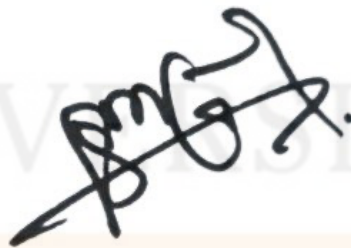
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CERTIFICATION

This is to certify that we have read this research paper entitled '**Knowledge, Attitude and Practices in Farmers Towards Bovine Dystocia**' by Aida Binti Mohd Hashim, and in our opinion it is satisfactory in terms of scope, quality and presentation as partial fulfillment of the requirement for the course DVT 5436 – Research Project.



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My mother and beloved son

DVM 5 class of 2017/2022

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DEDICATIONS

I dedicate my dissertation work to my family and many friends. A special feeling of gratitude to my loving parent, Raziah, whose words of encouragement and push for tenacity ring in my ears. My beloved son, Adam, who always need to understand and cope with the hectic life to have me as his mom. My brothers, Raziqe, Rafiq, Aznam Hashim, my sisters, Razreen Erma, Razreen Elysha, and sister-in-law, Ai Mastura, Haffiza and Emy Syakila for their kind words and supports.

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ABSTRACT

An abstract of the research paper was presented to the Faculty of Veterinary Medicine, Universiti Malaysia Kelantan, in partial requirement for the course DVT 5436 – Research Project.

Dystocia is an abnormal condition of difficulty in the parturition process which requires assistance for helping in the delivery of the calf. It is a very common problem faced by farmers globally as well as among farmers in Kelantan. This is a pilot study to determine the level of knowledge, attitude, and common practices among farmers toward bovine dystocia in Kelantan. Thus, a total of 100 farmers were interviewed from few districts in Kelantan such as Kota Bharu, Bachok, Tumpat, Kubang Kerian, and Pengkalan Chepa. A set of questionnaires was used to interview the farmers. A Chi-square test was performed to analyze the data obtained. As for the result, this study shows that the level of knowledge and attitude of farmers in Kelantan is moderate and acceptable. However, the level of practice among the farmers is poor and should be improved to lower the risk of cows death due to dystocia. For future studies, it is advisable to increase the sample size so that it can help to distribute the questionnaire and interview more farmers thus being able to deem the level of knowledge, attitude, and practices among the farmers towards dystocia in cows. The results later can be used by stockholders to evaluate the level of KAP among the farmers, thus able to improvise the cattle industry.

Keywords: *Bovine Dystocia, Knowledge, Attitude, Practices, Prevalence*

ABSTRAK

Abstrak daripada kertas penyelidikan dikemukakan kepada Fakulti Perubatan Veterinar, Universiti Malaysia Kelantan untuk memenuhi sebahagian daripada keperluan kursus DVT 5436 – Projek Penyelidikan.

Distokia adalah keadaan tidak normal didalam proses bersalin dimana memerlukan bantuan untuk melahirkan anak lembu. Hal ini adalah masalah yang sangat biasa dihadapi oleh penternak secara global, termasuklah penternak di Kelantan. Ini adalah kajian rintis untuk menentukan tahap pengetahuan, sikap dan amalan yang biasanya diamalkan dikalangan penternak apabila menghadapi distokia dalam ternakan lembu di Kelantan. Oleh itu, sejumlah 100 penternak daripada beberapa daerah di Kelantan seperti Kota Bharu, Bachok, Tumpat, Kubang Kerian, and Pengkalan Chepa telah ditemubual. Satu set soal kaji selidik telah digunakan untuk menemubual penternak. Ujian Chi-square dilakukan untuk menganalisis data yang diperolehi. Hasilnya, kajian ini menunjukkan pengetahuan dan tindakan oleh penternak di Kelantan adalah di tahap sederhana. Walaupun begitu, tahap amalan penternak di Kelantan adalah lemah dan seharusnya dibaikpulih agar risiko kematian lembu disebabkan distokia dapat direndahkan. Untuk kajian dimasa hadapan, disarankan untuk menambah saiz sampel supaya soal selidik dan temubual boleh dijalankan terhadap lebih ramai penternak, supaya dapat menilai tahap pengetahuan, tindakan dan amalan dikalangan penternak terhadap distokia didalam lembu. Hasil kajian kemudian dapat digunakan oleh pemegang saham untuk menilai tahap KAP dikalangan penternak, seterusnya dapat membaikpulih industri lembu.

Kata kunci: *Attitude, Bovine Dystocia, Knowledge, Practices, Prevalence*

1.0 INTRODUCTION

Dystocia is the term used to describe slow or difficulty in parturition, and was defined as a birth in which the level of assistance necessary to enable completion of the birth process was greater than what was judged suitable for the management situation (Meijering, 1984). It is estimated that between 2 and 23% of cows in a herd have problematic calving that requires the aid of a farmer or veterinarian (Mee, 2008). There are a variety of risk factors that cause dystocia. For instance, this includes breed, parity, weight, and condition of the cow at calving, sex and birth of weight calf, malpresentation of the calf itself, multiple calving, and year and season of calving (Zaborski, 2009).

Dystocia is a very common and economically important problem in the cattle industry (Kaya, 2015). The total economic costs attributable to a severe case of dystocia have been estimated at up to 500 cases (McGuirk, 2007), that associated with approximately 50% of calf mortality cases at birth but can also have a profound influence on dam performance itself (McGuirk, 2007, Mee, 2011). The prevalence of dystocia in dairy and beef cattle is 5.6% increased compared to previous years (Ippolito et al., 2018). This includes reduced fertility, milk production as well as cow survival. The clinical presentation of bovine dystocia normally is a pathognomonic sign which presented with the onset of labor without delivery of fetus or fetal membrane and later regression of parturition signs. Besides that, the cows may be presented with abnormal body posture and prolonged lying down also may be observed (Mollaligh M. et al., 2016). In addition, dystocia also may left negative effects on reproductive performance, causing stillbirth, cow death, retained placenta, uterine infections, or increase involuntary culling (Lombard, 2007). The other consequences of this problem include veterinary fees, extra labor, and other management costs (Kaya, 2015).

The calf's birth weight has an impact on the risk of dystocia. One of the most important risk factors for dystocia in cattle and pluriparous females has been found as calf birth weight (Meijering, 1984; Nugent et al., 1991). Variable maternal food intake during pregnancy has been shown to affect placental development and endocrine hormones associated with nutrition transfer to the fetus (Sullivan et al 2009a,b, 2010), fetal growth rate, and eventual calf birth weight (Sullivan et al 2009a,b, 2010). (Micke et al., 2008). An increase in maternal body condition scores at the end of the second and third trimesters of pregnancy increased the chance of dystocia. During the second trimester of pregnancy, high levels of dietary protein and energy were associated with an increase in maternal body condition score, and recent studies show that increasing dietary protein and energy during this period also boosted calf birth weight by 8.3%. (Micke et al., 2008).

2.0 RESEARCH PROBLEM STATEMENT

Dystocia is a common abnormal condition diagnosed in cattle. However, despite it being one of the most common problems in cattle production and the rising number of dystocia cases among farmers, there is no research on how the farmers assess the knowledge, attitude and practices of farmers towards dystocia in Kelantan.

3.0 RESEARCH QUESTIONS

- 3.1 What is the level of knowledge of farmers towards bovine dystocia?
- 3.2 What are the common attitude of farmers towards bovine dystocia?
- 3.3 What are the common practices among the farmers towards dystocia in cattle?

4.0 RESEARCH HYPOTHESIS

- 4.1 Farmers have appreciable level on knowledge towards bovine dystocia.
- 4.2 Farmers have acceptable attitude towards bovine dystocia.
- 4.3 Farmers have good practices towards bovine dystocia.

5.0 RESEARCH OBJECTIVES

- 5.1 To determine the level of knowledge of farmers towards bovine dystocia.
- 5.2 To assess the level of attitude of farmers towards bovine dystocia.
- 5.3 To determine the common practices of farmers towards bovine dystocia.

6.0 LITERATURE REVIEW

6.1 Definition of dystocia

The term dystocia is from the Greek ‘dys’ meaning difficult and ‘tokos’ meaning birth. Dystocia is commonly known as difficulty in calving and associated with prolonged or difficult parturition, which become the most common rising reproductive problem in cattle industry (Noakes, 2001). There are some components of calving that will lead to dystocia when one or more of these components. The components are expulsive forces, birth canal adequacy and fetal size and position. Both heifers and older cows can have all types of dystocia, such as feto-pelvic disproportion and fetal malposition. However, the predominant types and risk factors differ between these parity groups. The most dominant types of dystocia to the least one, are oversized calves, abnormal fetal position and failure or inadequate vulva dilation, are commonly occur in heifers. Meanwhile, in older cows, the primary types of dystocia are

abnormal fetal position, oversized calves, multiple fetuses, uterine inertia, uterine torsion, and failure or inadequate dilation of the cervix. However, the risk of dystocia is 3 times fold greater in young cows compared to older cows (Meyer 2001).

6.2 Prevalence of dystocia

According to Gembremedhin (2018), 63.3% of dystocia were recorded, compared to Nejash and Ahmed (2016) was only 58.26%, proven that dystocia cases are rising with speculative knowledge, attitude, and practices among the farmers in handling dystocia cases in their farm. There is a higher prevalence of dystocia in a semi-intensive farming system with 60.5% compared to extensive of farming system with only 39.5% reported by Gembremedhin (2018).

6.3 Risk factors of dystocia

There are many factors that could lead to dystocia. Based on studies done by Gembremedhin (2018), breed, breeding methods, parity of the dam, sex of the calf, seasons of during calving, farming systems and number of animals in the farm has contributed to the dystocia cases.

6.4 Signs of dystocia

Dystocia can occur in both first and second stage of labor where there is a prolonged of this process without any evidence of progression after a certain time given to the dam which needs assistance for delivery. The calf can survive to proceed with normal birth up to 8 hours during second-stage labor but delivery time is supposed to be shorter. Some notifiable signs can be

seen including prolonged with non-progressive, standing in abnormal posture in first stage of labor may be seen in early stage of dystocia (Dessie, 2017). Besides that, the cow may show dipped back posture, straining vigorously for about 30 minutes but without appearance of the calf, obvious malposition (such as appearance of fetal head but no forelimbs or presence of both of hindlimbs only) (Dessie, 2017).

6.5 Knowledge, Attitude and Practice of bovine dystocia among farmers

In Southwestern Ethiopia, a survey was conducted and revealed that the farmers acknowledge that dystocia has been a reproductive problem in cows that could affect the milking and reproduction performance of the cows (Belay, 2020). In contrast to this study, according to John et al., (2018), 94% of the farmers did not consider the calf mortality as a problem even though about 8% of the mortality dystocia cases have caused loss to the farmers. Despite that, based on the research, the farmer's majority agreed that veterinary practitioners are needed related to calf management, especially in cows' reproductive problems. Based on a cross-sectional study conducted by Lorenzo et al., (2021), there was a limited assessment of practices towards dystocia calves due to low cases reported around the study area.

7.0 METHODOLOGY

7.1 Study area and population

The study was conducted in few districts from February 2022 until 21st May 2022, in Kelantan including Kota Bharu, Bachok, Kubang Kerian, Tumpat, and Pengkalan Chepa. Data were collected conveniently from a total of 100 farmers through face to face interview-based and explanations were provided to respondents who were unable to comprehend the questions or were illiterate.

7.2 Questionnaire design

The questionnaires were constructed by modifying the extracted questions from pre-existing literature. Each questionnaire consisted of four sections which are the socio-demographic data (PART 1), the knowledge (PART II), the attitude (PART III), and the practices (PART IV) of the farmers towards bovine dystocia. Five socio-demographic questions were constructed to obtain a general profile of the farmers. In PART II, fourteen statements were constructed which will require the respondents to answer yes, no, or unsure based on their knowledge of bovine dystocia. The knowledge statement comprises the comprehension of the farmers towards maturity of the cows, the importance of the history of calving in the selecting the cows, management of the cows in lowering the risk of dystocia, and the size of the fetus in contributing to the dystocia to occur. In PART III, eleven questions were constructed pertaining to the attitude of the farmers in performing artificial insemination on their farm, the preference in calling and referring to the veterinarian in handling dystocia in the cows, inseminating the young cows and immature heifers, and screening of the cows' health for the purpose of lowering the risk of dystocia in the cows. Twelve questions were constructed in PART IV of Likert scale statements which revealed the practice of the farmers in handling bovine dystocia. The questionnaire was reviewed and evaluated by the expert to determine the reliability in

conducting this study and was approved by the expert. Thus, the questionnaire made was reliable to be used in this study.

7.3 Data analysis

The collected data were entered and analyzed into Microsoft Excel. Descriptive statistics were applied to analyze the raw data collected. The demographic variables were summarised as the frequency in percentage for the categorical data such as gender, districts, level of education, and purpose of rearing cows. Other than that, mean and standard deviation (SD) were used in analyzing numerical data such as age and the score. The Likert scale answers for all the questions were substituted into scores following the scoring system as shown in Table 8.1. Lastly, the mean score of knowledge, attitudes, and practices (KAP) of the administered questionnaire was obtained from the total in each section and used as an assessment of the farmers about their knowledge and actions towards dystocia on their farm.

8.0 Results

Response	Score given	
Knowledge	Yes	2
	Unsure	1
	No	0
Total knowledge score	28	
Attitude	Positive statement	
	Strongly agree	4
	Agree	3
	Neutral	2
	Disagree	1
	Strongly disagree	0
	Negative statement	
	Strongly agree	0
	Agree	1
	Neutral	2
	Disagree	3
	Strongly disagree	4
Total attitude score	44	
Practices	Always	2
	Seldom	1
	Never	0
	Total practice score	24

Characteristics	Numbers
District	
Bachok	28
Kota Bharu	27
Kubang Kerian	13
Tumpat	11
Panji	7
Peng. Chepa	4
Binjai	2
Beris	1
Guchil Bayam	1
Kemumin	1
Ketereh	1
Peringat	1
Pulau Melaka	1
Sabak	1
Semerak	1
Gender	
Male	99
Female	1
Level of education	
Secondary School	93
Primary School	3
Degree	2
Diploma	2
Purpose of rearing	
Breeding	57
Meat and breeding	38
Meat	5

8.1 Summary of demographic data

Table 8.2 demonstrate the socio-demographic data of 100 respondents that participated in this study from different districts of Kelantan. The majority of respondents were collected from Bachock, Kota Bharu, Kubang Kerian, and Tumpat with percentages of 28%, 27%, 13%, and 11% respectively while the remaining 21% are minorities from other districts. Out of 100

respondents involved in this research, 99% were men, and 1% were women which age between 21 to 71 years old. The mean age in the study was 50.42 (standard deviation [SD]= 11.25) years. 2% of respondents were a primary school leaver, 94% of respondents ended their study by the secondary school while 4% account for respondents who made to tertiary education which were 2% from diploma graduates and another 2% graduated by the level of degree. Their purpose of rearing the cows was mostly for breeding only. However, only 5% of the farmer rear their cow for meat purposes.

Table 8.3 Respondent's knowledge on bovine dystocia(n=100)

Statements	Yes (%)	Unsure (%)	No (%)
Dystocia is a common reproductive problem in cows	99	1	0
Cows with dystocia have a prolonged calving process compared to regular cows	80	0	15
Inadequate feed intake in pregnant cows can cause dystocia	20	40	20
The breed of the sire (bull) contributes to dystocia	99	1	0
Dystocia cows do show abnormal body posture or prolonged lying down during calving	45	51	4
Cows are bred when they reach maturity	97	1	2
The history of calving is essential in selecting cows for breeding	42	40	18
Twin fetuses can cause dystocia in cows	9	10	81
Dystocia can be caused by small cow size	97	1	2
First-time pregnant cows are more prone to dystocia	5	26	69
A large fetus can cause dystocia	100	0	0
Good management of the cows can lower the risk of dystocia.	5	48	47
It is essential to screen cows for the risk of dystocia	11	73	16
I can identify a cow with dystocia	87	8	5

Table 8.4 Respondent's attitude on bovine dystocia(n=100)

Statements	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagree (%)
Artificial insemination should be done by certified personnel only	94	3	1	2	0
Pregnant cows should be given adequate nutrition, especially in the third trimester	1	25	74	0	0
The veterinarian should always be called to attend to cows with difficulties in calving	2	53	43	2	0
Sire bulls should not be breeds larger than the recipient cow's breed.	84	15	1	0	0
It is essential to receive guidance on dystocia from veterinary doctors or animal health professionals	3	50	46	4	0
Immature heifers can be inseminated	2	8	26	62	2
Young cows can be inseminated	14	79	5	2	0
Pregnant cows should be separated from other cows	1	6	82	11	0
Continuous health monitoring of pregnant cows is crucial to preventing dystocia	1	12	83	3	1
When possible, I prefer to inseminate older cows with calving experience	3	27	64	6	0
I improve my skills continuously to manage dystocia	4	86	10	0	0

Table 8.5 Respondent's practices on bovine dystocia(n=100)

Statements	Always (%)	Seldom (%)	Never (%)
Artificial insemination on the farm is performed by certified personnel or veterinarian	97	1	2
Pregnancy screening for cows is practiced on my farm	62	4	34
Pregnant cows are provided with adequate nutrition, especially in late pregnancy	6	20	74
First-time pregnant cows are closely monitored during pregnancy	5	7	88

C-section is performed on the farm on dystocia cows by the veterinarian	94	0	6
I will call for veterinary help if calving is difficult in cows	5	38	57
I seek for veterinary advice in managing calving emergencies	8	40	52
I do standby calving cows to provide emergency aid when needed.	84	6	10
Cows are bred at least one year after the last calving	93	4	3
I purchase bull breeds based on the need of the farm	22	1	77
I purchase cow breeds based on the need of the farm	95	3	2
I train my farm staff regularly on cow reproduction	3	2	95

Table 8.6 Grading of the KAP score and it's mean score

Aspect	Knowledge	Attitude	Practice
Grading			
Good	22-28	35-44%	19-24
Moderate	18-21	27-34%	15-18
Poor	0-17	0-26	0-14
Mean score	18.98±2.27	29.95±2.65	10.98±2.70

Table 8.7 Frequency of grades in KAP (n=100)

Aspect	Knowledge(%)	Attitude(%)	Practice(%)
Grading			
Good	1	2	1
Moderate	88	94	5
Poor	11	4	94

Based on table 8.6 and 8.7 above, there were 88% of the farmers has a moderate level of knowledge and 94% has a moderate level of attitude. Meanwhile, only 5% of the farmers have a moderate level of practice towards bovine dystocia and 94% of them have poor practice.

9.0 Discussion

9.1 Knowledge aspect

7 questions have more than 80% correct responses from the farmers. 99% of the farmers in Kelantan are aware that dystocia is a common reproductive problem in cows identified by the prolonged calving process as compared to normal cows agreed by 80% of the farmers. Half of the farmers(51%) are not sure of clinical signs of cows having dystocia such as the abnormal posture of prolonged lateral recumbency during calving. Only 45% know about the posture of dystocia cattle. However, 87% of them can identify cows that have dystocia (Dai Grove-White, 2021).

They (99%) were also aware that the breed of bull mated with their cow will be one of the factors contributing to dystocia and 97% also agreed cows should be bred when reaching maturity including small cow size. All the farmers know that dystocia was caused by conceiving a large fetus. Most of the farmers (81%) are not aware of the fact that a twin fetus can lead to the occurrence of dystocia and more than half of them(69%) did not know that first-time pregnant cows were prone to get dystocia (Bühler, C. et al., 2018).

In the aspect of management, only 5% of farmers are aware that good management of the cows can lower the risk of dystocia and 11 % knows that herd health program on the farm such as screening cows for risk of dystocia is essential. 73% of the farmers are unsure about that (J.Dairy et al., 2018).

9.2 Attitude of farmers on dystocia

From table 8.4, 94% of farmers strongly agreed that Artificial insemination(AI) should be done by certified personnel only such as an AI technician or a veterinarian while 53% of them agree that there is a need in calling veterinarians to attend to cases of cows with calving difficulties. However, half of them agreed that it is essential to receive guidance on assisting dystocia from veterinary doctors or animal health professionals.

There were 6 statements of do's and don't to control or prevent the occurrence of dystocia on the farm. 74% of farmers have a neutral perception of the need of giving adequate nutrition to pregnant cows especially those in the third trimester. 84% strongly agreed that larger sire bulls should not be bred with smaller recipient cow's breed. 64% know and agreed that insemination cannot be done on immature heifers. Only total of 8% of farmers disagreed and 2% strongly disagreed with the perception that immature heifers can be inseminated while 26% have no opinion regarding this action. Meanwhile, 14% strongly agreed and 79% agreed with the perception that inseminating young cows can be done. the perception of pregnant cows should be separated from other cows and continuous health monitoring of pregnant cows is crucial to preventing dystocia was neutral to 82% and 83% of farmers respectively.

In terms of self-preparation towards managing dystocia on the farm, 64% of farmers are neutral in preference of inseminating older cows with calving experience whenever possible for them. 86% of them agreed with the willingness to continuously improve their skill in managing dystocia.

9.3 Farmer practices in the farm

Table 8.5 reveals the practices of farmers towards dystocia. In clinical management and treatments of dystocia cases in cows, 97% always practice performing AI by calling certified personnel or veterinarian. 57 of farmers never attempt to call veterinarians and 38% rarely call for veterinary aid if their cow is having difficulty during delivery. 52% of them never seek veterinary advice in managing or assisting in calving emergencies. Meanwhile, 94% of farmers who practiced on their farms when there is dystocia, will always be assisted surgically via Cesarean section performed by veterinarians.

In an aspect of management practice of the farm. 62% of farmers will always screen their cows to assess their pregnancy status. And 74% of farmers never practice providing pregnant cows with adequate amounts of nutrition, especially in late pregnancy. The practice of close monitoring of the first-pregnant cattle has also never been done by 88% of them. However, prior to expected calving periods, 84% of them said that they always standby to the cows to provide necessary emergency aid. 93% always practicing in breeding their cows at least one-year intervals from the previous calving. The bull breed was never purchased based on the need of the farm by 77% of the farmer. Only 22% of farmers practiced buying bulls based on the farm's needs. 95% of the farmers did not train the staff regularly as they worked on the cows by their own.

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10.0 Conclusion

The result shows the level of knowledge, attitude, and practices of farmers in Kelantan which is moderate in all three aspects. Farmers have inadequate knowledge of the clinical signs of dystocia in terms of the posture of the animal during calving even though the majority of the farmers were aware that dystocia in cows is one of the most common reproductive problems. Most farmers did not aware that twin fetuses and heifer were the factors that cause dystocia in cattle. Only minimal few of the farmers know that management of farms and screening of cows will be able to lower the risk of dystocia in cows.

11.0 Recommendations and future work

There were a few limitations that have been recognized throughout performing this study, where there was a limited number of respondents and access to the farmers. The questionnaire is not widely distributed to most farmers in Kelantan to be able to be evaluated their level of knowledge, attitude, and practices towards dystocia in cows.

For future study, it is advisable to increase the sample size so that it can help to deem the level of knowledge, attitude, and practices among the farmers towards bovine dystocia. This will eventually help the stockholder to recognize the basic initiative can be conducted in the future to increase the level of KAP among the farmers and thus improve the cattle production and industry.

12.0 Appendix A.1

KNOWLEDGE ATTITUDE AND PRACTICE OF KELANTAN FARMERS TOWARDS BOVINE DYSTOCIA

I am Aida Binti Mohd Hashim (D15A0002), a final year student of the Doctor of Veterinary Medicine (DVM) Programme of the Faculty of Veterinary Medicine Universiti Malaysia Kelantan (UMK). I am conducting my final year project on evaluating the knowledge, attitude, and practice of bovine dystocia among farmers in Kelantan. Information gathered from this study will be kept strictly confidential and used solely for the research only. This study has been approved by the Faculty of Veterinary Medicine's final year project committee. Your participation indicates an informed agreement and consent. Thank you for taking the time to respond to this questionnaire.

Questions for Socio-Demography
What is your age?
What is your gender? .Male .Female
Which district of Kelantan are you from?
What is your level of education? .Primary .Secondary .Degree .Bachelors .Masters .Doctorate
What is your purpose for rearing cows? .Meat .Milk .Breeding .Both meat and milk

Questions for Knowledge (YES/NO)	YES	NO	UNSURE
Dystocia is a common reproductive problem in cows.			
Cows with dystocia have a prolonged calving process compared to regular cows.			
Inadequate feed intake in pregnant cows can cause dystocia.			
The breed of the sire (bull) contributes to dystocia.			
Dystocia cows do show abnormal body posture or prolonged lying down during calving.			

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Cows are bred when they reach maturity.			
The history of calving is essential in selecting cows for breeding.			
Twin fetuses can cause dystocia in cows.			
Dystocia can be caused by small cow size.			
First-time pregnant cows are more prone to dystocia.			
A large fetus can cause dystocia.			
Good management of the cows can lower the risk of dystocia.			
It is essential to screen cows for the risk of dystocia.			
I can identify a cow with dystocia.			

Questions on Attitude	STRONGLY AGREE	AGREE	NEITHER	DISAGREE	STRONGLY DISAGREE
Artificial insemination should be done by certified personnel only.					
Pregnant cows should be given adequate nutrition, especially in the third trimester.					
The veterinarian should always be called to attend to cows with difficulties in calving.					
Sire bulls should not be breeds larger than the recipient cow's breed.					
It is essential to receive guidance on dystocia from veterinary doctors or animal health professionals.					
Immature heifers can be inseminated.					
Young cows can be inseminated.					
Pregnant cows should be separated from other cows.					
Continuous health monitoring of pregnant cows is crucial to preventing dystocia.					
When possible, I prefer to inseminate older cows with calving experience.					
I improve my skills continuously to manage dystocia.					

Questions for Practices	ALWAYS	SELDOM	NEVER
Artificial insemination on the farm is performed by certified personnel or veterinarian.			
Pregnancy screening for cows is practised on my farm.			
Pregnant cows are provided with adequate nutrition, especially in			

late pregnancy.			
First-time pregnant cows are closely monitored during pregnancy.			
C-section is performed on the farm on dystocia cows by the veterinarian.			
I will call for veterinary help if calving is difficult in cows.			
I seek for veterinary advice in managing calving emergencies.			
I do standby calving cows to provide emergency aid when needed.			
Cows are bred at least one year after the last calving.			
I purchase bull breeds based on the need of the farm.			
I purchase cow breeds based on the need of the farm.			
I train my farm staff regularly on cow reproduction.			

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